

## CLAIMS

I claim:

- 5           1.     A method for guiding a medical instrument to a target site within a patient, comprising:
- capturing at least one intraoperative ultrasonic image from the patient;
- identifying a spatial feature indication of a patient target site on the intraoperative ultrasonic image,
- 10               determining coordinates of the patient target site spatial feature in a reference coordinate system,
- determining a position of the instrument in the reference coordinate system,
- creating a view field from a predetermined position, and optionally orientation, relative to the instrument in the reference coordinate system, and
- 15               projecting onto the view field an indicia of the spatial feature of the target site corresponding to the predetermined position, and optionally orientation.
2.     The method of claim 1, further comprising
- using an ultrasonic source to generate the ultrasonic image of the patient, and
- determining coordinates of a spatial feature indicated on said image from the
- 20     coordinates of the spatial feature on the image and the position, and optionally orientation, of the ultrasonic source.
3.     The method of claim 1, wherein said medical instrument is a source of video and the view field projected onto the display device is the image seen by the video source.

4. A computer readable medium that stores a computer program that is designed to assist a user in guiding a medical instrument to a target site in a patient, said computer program comprising sets of instructions for:

capturing at least one image during an operation of the patient;

5 from a user, receiving an indication of a target site on the captured image;

based on the indication, determining coordinates of the patient target site in a reference coordinate system;

determining a position of the instrument in the reference coordinate system;

10 projecting onto the display device a field of view from a perspective of the instrument in the reference coordinate system; and

projecting onto the field of view the indicia that specifies the position of the target site relative to the position of the instrument.

5. The computer readable medium of claim 4, wherein the computer program further comprises sets of instructions for:

15 using an ultrasonic source to generate the ultrasonic image of the patient, and

determining coordinates of a spatial feature indicated on said image from the coordinates of the spatial feature on the image and the position, and optionally orientation, of the ultrasonic source.

6. The computer readable medium of claim 4, wherein said medical instrument is  
20 a source of video and the view field projected onto the display device is the image seen by the video source.